

WHAT IS CLAIMED IS:

1. A computer system comprising:
at least one first node having at least one first memory; and
a first threadlet for causing a first program to run in said computer system when said at least one first memory is local to said first threadlet.
2. The computer system of claim 1, wherein said first program requires access to a first memory location to run.
3. The computer system of claim 1, wherein said first threadlet is capable of determining that whether or not said first memory location is local to said first threadlet.
4. The computer system of claim 1, wherein said computer system is capable of saving said first threadlet and a state of said first threadlet in a parcel.
5. The computer system of claim 4, wherein said first threadlet state includes a first program counter that references said first program.
6. The computer system of claim 5, wherein said computer system is capable of injecting said parcel into a communication network.
7. The computer system of claim 6, wherein said computer system is capable of determining that said parcel has reached a second node after being injected into said communication network.
8. The computer system of claim 7, wherein said computer system is capable of unpacking said first threadlet state from said parcel and restarting said first threadlet in said first threadlet state when said first threadlet reaches said second node.
9. The computer system of claim 8, wherein said computer system is capable of verifying that said first memory location is within said second node.

10. The computer system of claim 1, wherein said first threadlet includes said first program.

11. The computer system of claim 1, wherein said computer system includes a plurality of said first nodes and each first memory of each of said first nodes includes a copy of said first program.

12. The computer system of claim 1, wherein said first program causes a second threadlet to be created, and wherein said second threadlet causes a second program to run in said computer system when at least one second memory of a second node is local to said first threadlet.

13. The computer system of claim 1, wherein a minimum state of said first threadlet is a wide word.

14. The computer system of claim 1, wherein said threadlet has an extended state of full word plus a wide word.

15. The computer system of claim 1, wherein said first node is on a PIM-enhanced memory chip.

16. The computer system of claim 1, wherein said at least one first node is a plurality of first nodes.

17. The computer system of claim 16, wherein each of said first nodes is on a PIM-enhanced memory chip.

18. The computer system of claim 16, wherein each of said first nodes is on a set of PIM-enhanced memory chips interconnected by a communication network.

19. A method comprising the steps of:
providing a first threadlet for causing a first program to run in a computer system when at least one first memory of at least one first node of said computer system is local to said first threadlet; and
said first threadlet executing said first program in said first node.
20. The method of claim 19, wherein said first program requires access to a first memory location to run.
21. The method of claim 19, wherein said first threadlet is capable of determining whether or not said first memory location is local to said first threadlet.
22. The method of claim 19, further comprising saving said first threadlet and a state of said first threadlet in a parcel.
23. The method of claim 22, wherein said first threadlet state includes a first program counter that references said first program.
24. The method of claim 23, further comprising injecting said parcel into a communication network.
25. The method of claim 24, wherein said computer system determines if said parcel has reached a second node after being injected into said communication network.
26. The method of claim 25, further unpacking said first threadlet state from said parcel and restarting said first threadlet in said first threadlet state when said first threadlet reaches said second node.
27. The method of claim 26, further comprising verifying that said first memory location is within said second node.

28. The method of claim 19, wherein said first threadlet includes said first program.
29. The method of claim 19, wherein said computer system includes a plurality of said first nodes and each first memory of each of said first nodes includes a copy of said first program.
30. The method of claim 19, wherein said first program causes a second threadlet to be created, and wherein said second threadlet causes a second program to run in said computer system when at least one second memory of a second node is local to said first threadlet.
31. The method of claim 19, wherein a minimum state of said first threadlet is a wide word.
32. The method of claim 19, wherein said threadlet has an extended state of full word plus a wide word.
33. The method of claim 19, wherein said first node is on a PIM-enhanced memory chip.
34. The method of claim 19, wherein said at least one first node is a plurality of first nodes.
35. The method of claim 34, wherein each of said first nodes is on a PIM-enhanced memory chip.
36. The method of claim 34, wherein each of said first nodes is on a set of PIM-enhanced memory chips interconnected by a communication network.